

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave.St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-005361**Date Inspected:** 15-Jan-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Mr. Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Fabrication**Summary of Items Observed:**

On this date CALTRANS OSM Quality Assurance (QA) Inspector Mr. Paul Dawson arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

**OBG Bay 9**

This QA Inspector observed ZPMC welder Mr. Gao Xin Dong, stencil 59361 is using flux cored welding procedure WPS B-T-2232-TC-U5F to make repairs to OBG deck plate DP600-001-013 R1. Prior to welding the QA Inspector observed the base material had been preheated using electrical heater elements. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Jiang Ting Quang, stencil 062265 is using the flux cored welding procedure WPS B-T-2232-TC-U5F to make repairs to OBG deck plate DP580-001 weld #13 R1. Prior to welding the QA Inspector observed the base material had previously been preheated using electrical heater elements. ZPMC does not appear to have any distortion control plates installed to prevent movement of the stiffener plates during these weld repairs. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Xu Guo Yin, stencil 59443 is using flux cored welding procedure WPS B-T-2232-TC-U5F to make repairs to OBG deck plate DP540-001-011 R1. Prior to welding the QA

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 2 )

---

Inspector observed the base material had been preheated using electrical heater elements. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

The QA Inspector monitored welding of closed rib of deck plate DP463-001 using gantry #1. The QA Inspector observed six ZPMC welders using welding procedure specification WPS-B-T-2342-U1(Urib)-4 using the gas metal arc welding process for the root pass and submerged arc welding process for the cover pass of partial penetration groove welds on six PMT closed rib welds at the same time. ZPMC has multiple welding manipulators attached to a movable gantry that runs on a track along the length of the stiffener plates. The QA Inspector observed a welding travel speed of approximately 531 mm per minute for the root passes and 515 mm per minute for the cover passes. As the welding commences, each of the welders is responsible for one of the welding heads. Welder Mr. Xhang Shao Hui 59403 completed the root pass of weld #1 with a welding current of approximately 360 amps and 31.3 volts and the cover pass welding current of approximately 690 amps and 25.3 volts. Welder Mr. Chen Jie, stencil 59468 completed the root pass of weld #2 with a welding current of approximately 360 amps and 31.0 volts and the cover pass welding current of approximately 685 amps and 24.9 volts. Welder Mr. Zhang Li Ping, stencil 201840 completed the root pass of weld #5 with a welding current of approximately 365 amps and 30.3 volts and the cover pass welding current of approximately 690 amps and 25.0 volts. Welder Mr. Zhao Cheng Shuang, stencil 59400 completed the root pass of weld #6 with a welding current of approximately 355 amps and 31.7 volts and the cover pass welding current of approximately 685 amps and 24.8 volts. Welder Ms. Yuen Feng Chuan, stencil 59355 completed the root pass of weld #9 with a welding current of approximately 345 amps and 31.3 volts and the cover pass welding current of approximately 685 amps and 25.0 volts. Welder Mr. Tiang Shuang Chen, stencil 201788 completed the root pass of weld #10 with a welding current of approximately 350 amps and 31.1 volts and the cover pass welding current of approximately 685 amps and 25.0 volts.

The QA Inspector issued an incident report stating the following problems:

“ZPMC has manufactured OBG Deck Panels (DP545-001 etc.) with cope holes that exceed 25 mm radius, cope holes with less than 25 mm radius and cope holes with various shapes. Engineering Request for Information number 1541R1 dated December 9, 2009 states the contractor (ZPMC) shall provide an R25 (25 mm radius) elongated cope per Detail 2 on sketch No. SK-824R0-02 in response to RFI No. 924R0 / RFI No. 837R0.”

### Summary of Conversations:

See above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

---

<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Clifford,William	QA Reviewer

---